The Files (R&D Lab) 1 May 1958

25X1

IN-9, 1000 Cycle Reference Oscillator, (Project 2517); Prototype Check

1. The IN-9 is a self-contained battery operated audio oscillator that provides relatively stable short duration pulses at a repetition rate of 1000 cps. The unit is used in place of the more stable Tuning Fork Reference Oscillator (IN-3) where small size is more important than extreme accuracy. The oscillator can be powered and/or controlled from a remote location.

2. The oscillator was tested using a 2 K carbon resistor instead of an ear-piece. Although all of the characteristics were not investigated, the data obtained agreed with the characteristics given in the instructions that were supplied with the unit.

3. Test Results:*

(a) Frequency Stability: Within plus or minus 2% when the battery voltage was varied from 15.0 to 30.0 volts.
(b) Output Wave Form : Pulse
(c) Warm-up Time : None
(d) Output Voltage : Approximately 10% lower than the battery supply voltage from 15.0 through 30.0 volts.

4. Discrepancies:

(a) The battery does not fit solidly in the battery holder. This condition causes the battery tension spring to extend beyond the edge of the holder and difficulty in replacing the oscillator cover.

(b) When Burgess Type U 15 batteries are used, the case rubs on the plastic caps of the battery and causes difficulty in closing the case. If the cap should be forced off the battery, it may force the battery away from the contacts and cause an open circuit.

5. Conclusion:

The results of the tests performed indicate that the IN-9 Reference Oscillator will perform its intended function satisfactorily.

*All tests were conducted at room temperature (approximately 75°F).

6. Recommendations:

(a) Mention should be made in the operating instructions to remove the plastic caps of the Burgess Type U 15 batteries when they are used.

(b) Mention should be made in the operating instructions to remove the battery after it is exhausted to prevent chemical action from damaging the oscillator.

[redacted] 25X1

Design Unit Endorsement:

1. On the basis of the discrepancies and recommendations noted above, the following action either has been or will be taken:

(a) The battery fit has been corrected.

(b) A statement concerning battery cap removal will be inserted in paragraph 3.2.1 of the operating notes and instructions.

(c) The operating notes and instructions will contain statements on the removal of the battery when the equipment is not in use and when the battery has been exhausted.

[redacted] 25X1

Lab/JWM/DLC/jcm (1 May 1958)

Distribution: Original - Addressee
1 - Design Files
1 - R&D Chrono
1 - Dev/s